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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,323	11/17/2003	Yuandan Lou	5200	5097

22896 7590 01/17/2007
MILA KASAN, PATENT DEPT.
APPLIED BIOSYSTEMS
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FOSTER CITY, CA 94404

EXAMINER

SALOMON, PHENUEL S

ART UNIT	PAPER NUMBER
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2112

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/715,323

Applicant(s)

LOU ET AL.

Examiner

Phenuel S. Salomon

Art Unit

2112

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the original filing of November 17, 2003. Claims 1-21 are pending and have been considered below.

Claim Objections

2. The disclosure is objected to because of the following informalities: the examiner notes the use of acronyms SQL, CD, DVD, RAM, PROM, EPROM, and FLASH-EPROM in the specification without including a description in plain text, as required. Appropriate correction is required.

3. Claims 1 and 15 are objected to because of the following informalities: In claim 1, "(ii) a database embedded in said software application, and (ii) a computer-executable set of instructions for generating..." and in claim 15, "(ii) eliciting and receiving from a user a space allocation value, and (ii) setting a maximal amount of space usable by said database equal to said space allocation value" The second sub titles in both claims should have been "(iii) instead of "(ii)". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1-7, 13-15, 17-19, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Knight (US 7,017,023).

Claim 1: Knight discloses a computer program product for use on a computer system including one or more storage devices (storage system) and a display device, said product comprising:

- (i) a software application (program), (col. 1, lines 47,48).
- (ii) a database (storage system) embedded in said software application, and (col.1, lines 54-63).
- (iii) a computer-executable set of instructions for generating a graphical user interface on said display device, the graphical user interface including (col. 5, lines 41-42).
 - (a) a first display portion showing said one or more storage devices (storage systems) (col. 2, lines 20-24),
 - (b) a second display portion showing free space available for use by said database on said one or more storage devices, and (col. 8, lines 51-58)
 - (c) a third display portion comprising an editable field for receiving a user-defined space allocation value, whereby a user can set a maximal amount of space usable by said database (col. 9, lines 42-50).

Claim 2: Knight discloses a product as in of claim 1 above, wherein at least one of said storage devices comprises an optical or magnetic disk drive (col. 4, lines 44-50).

Claim 3: Knight discloses a product as in claim 1 above, wherein said embedded database comprises a relational database configured to store (i) DNA sequence data, (ii) protein sequence data, or (iii) both DNA sequence data and protein sequence data (The specification did not elaborate on DNA sequence and protein sequence data. The

examiner prosecutes them as just regular data/information) (col. 2, lines 20-30).

Claim 4: Knight discloses a product as in claim 1 above, further comprising a second set of computer-executable instructions defining an installation routine whereby said program product is installed upon said computer system, and wherein said graphical user interface is generated in the course of said installation routine (col. 2, lines 41-45).

Claim 5: Knight discloses a product as in claim 1 above, further comprising a second set of computer-executable instructions for monitoring, while said program is running, space usage of said one or more storage devices, and generating a second graphical user interface, said second graphical user interface including a first display portion showing space usage on said one or more storage devices, and a second display portion comprising an editable field for receiving a user-defined space allocation value, whereby a user can change the maximal amount of space usable by said database. (Knight discloses a computer executable set of instructions to perform certain functions as in claim 1 above; therefore the examiner concludes that a second or a third sets are inherent to perform the above stated functions) (col. 2, lines 20-24), (col. 8, lines 51-58), (col. 9, lines 42-50) respectively.

Claim 7: Knight discloses a product as in claim 5 above, wherein said database stores a plurality of data types, and wherein said first display portion of said second graphical user interface shows space usage for each of said data types, individually; and wherein said second display portion of said second graphical user interface is configured to receive a user-defined space allocation value for each of said data types, individually (col. 10, lines 17-36).

Claim 13: Knight discloses an interface executed by programmed instructions on a general purpose computer; the general purpose computer including a memory for holding the programmed instructions, an input device for supplying input information for interaction with the programmed instructions, and a display device for displaying

information created by the programmed instructions and the input information; said interface operating in conjunction with an underlying database embedded in an associated computer software product, wherein said interface comprises: a first display portion showing one or more storage devices accessible by said computer (col. 2, lines 20-24), a second display portion showing free space available for use by said database on said one or more storage devices (col. 8, lines 51-58), and a third display portion comprising an editable field for receiving a user-defined space allocation value, whereby a user can set a maximal amount of space usable by said database (col. 9, lines 42-50).

Claim 14: Knight discloses storage space management system, comprising: (a) a display; (b) a processor operatively connected to said display; (c) an input device operatively connected to the processor; and (d) a memory having computer software operative by the processor, said software including: a database embedded therein, computer-executable instructions for generating a graphical user interface on said display, the graphical user interface including a first display portion showing one or more available storage devices (col. 2, lines 20-24), a second display portion showing free space available for use by said database on said one or more storage devices (col. 8, lines 51-58), and a third display portion comprising an editable field for receiving a user-defined space allocation value, whereby a user can set a maximal amount of space usable by said database (col. 9, lines 42-50).

Claim 15: A storage space management system, comprising: (1) a display, (2) a processor operatively coupled to said display; (3) an input device operatively connected to the processor; (4) a memory operatively coupled to said processor, (5) one or more storage devices adapted for communication with said memory, and (6) software, in one or both of said memory and said storage devices (fig. 1, item #102), said software comprising a host application and a database embedded in said host application, said software further comprising computer-executable instructions for (i) generating and displaying upon said display a graphical user interface, the graphical user interface including a first display portion showing one or more available storage devices (col. 2,

lines 20-24), and a second display portion showing free space available for use by said database on said one or more storage devices (col. 8, lines 51-58), (ii) eliciting and receiving from a user a space allocation value (col. 9, lines 37-50), and (ii) setting a maximal amount of space usable by said database equal to said space allocation value (the examiner concludes that setting a maximal amount of usable space equal to space allocation value is inherent) (col. 9, table 1 and line 6).

Claim 17: Knight discloses a product as in claim 15 above, wherein said embedded database comprises a relational database configured to store (i) DNA sequence data, (ii) protein sequence data, or (iii) both DNA sequence data and protein sequence data (The specification did not elaborate on DNA sequence and protein sequence data. The examiner prosecutes them as just regular data/information) (col. 2, lines 20-30).

Claim 18: Knight discloses a method for management of space on one or more storage devices of a computer system, said method comprising:

during an installation routine, whereby a user installs on said computer system a software application having a relational database embedded therein:

- (i) determining an amount of unused space available to said database on said storage devices, (col. 9, lines 25-31).
- (ii) presenting said amount to a user via a graphical user interface on a display of said computer system; (col. 9, lines 47-51).
- (iii) receiving from said user a user-defined allocation of space to make available to said embedded database; and (col. 9, lines 32-35).
- (iv) creating one or more database files on said storage space, having a maximal size based on said user-defined allocation. (col. 9, lines 44-46).

Claim 19: Knight discloses a method for management of space on one or more storage devices of a computer system, said method comprising:

while a software application is running on said computer system, said software application including an embedded database having an upper size limit:

- (i) determining an amount of unused space available (existing storage capabilities) to said database on said storage devices, (col. 10, lines 17-20).
- (ii) presenting said amount to a user via a graphical user interface on a display of said computer system; and (col. 11, lines 3-8).
- (iii) increasing said upper size limit (optimal storage). (col. 11, lines 7-8).

Claim 21: Knight discloses a method as in claim 19 above, wherein step (ii) further comprises presenting a user-editable field to said user and receiving from said user a user-defined space allocation value, which value is then used to establish said upper size limit (optimal storage) (col. 9, lines 47-51).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knight (US 7,017,023).

Claim 16: Knight discloses a software application as in claim 15 above, but does not explicitly disclose a life-sciences software. Therefore it would have been obvious to one

having ordinary skill in the art at the time of the invention to use a life-sciences or health related software application since some of the data are DNA/ protein sequence data. One would have been motivated to use this type of software application in order to facilitate the data processing of DNA/protein sequence or both, which is already pre-configured or embedded.

8. Claims 6, 8-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knight (US 7,017,023) in view of L'Heureux (US 7,028,041).

Claim 6: Knight discloses a product for use on a computer system as in claim 5 above, but does not explicitly disclose that the space usage reaching a predetermined threshold. L'Heureux discloses a similar method for adjusting the size (volume) when a threshold volume is exceeded (col. 1, lines 52-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to increase or adjust the upper size limit in Knight. One would have been motivated to increase the size limit in order to maintain the system integrity and avoid potential data lost.

Claim 8: Knight discloses a product as in claim 1 above, but does not disclose a second set of computer-executable instructions for monitoring, while said program is running, space usage of said one or more storage devices, and generating a space-usage warning on said display device, when the space usage reaches a predetermined threshold. However, L'Heureux discloses an automatic report when the threshold volume is exceeded so that a user can respond as appropriate (col. 1, lines 52-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to automatically report that the threshold volume is exceeded so that a user can respond as appropriate in Knight. One would have been motivated to generate a space usage warning in order to maintain the system integrity and avoid potential data lost.

Claim 9-10: Knight discloses a product as in claim 1 above, but does not explicitly disclose a second set of computer-executable instructions for monitoring, while said program is running, space usage of said one or more storage devices, and automatically adjusting per data type, by a preset quantity, the maximal amount of space usable by said database, when the space usage reaches a predetermined threshold. L'Heureux discloses adjusting the percentage volume full or the measure of the disk fullness...(col. 1, lines 52-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine L'Heureux teaching to Knight. One would have been motivated to adjust by a preset quantity the maximal amount of space usable in order to maintain the system integrity and avoid potential data lost.

Claim 11: Knight discloses a product as in claim 10 above, but does not explicitly disclose the adjustment is recorded in a memory or storage such that it is traceable. L'Heureux discloses "...determining the data attributes of the dataset, such as whether it is guaranteed space,....(col. 1, lines 52-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make sure the recorded data is traceable in Knight. One would have been motivated to collect information about the file destination in order to maintain the system stability and integrity.

Claim 12: Knight discloses a product as in claim 9 above, but does not explicitly disclose a third set of computer-executable instructions for generating a second graphical user interface including an editable field permitting a user to override said preset quantity. L'Heureux discloses adjusting the percentage volume full or the measure of disk fullness... and automatically reporting when a threshold value is exceeded so that a user can respond as appropriate. It is concluded that the step where a user is permitted to override a preset quantity is implicit in L'Heureux step of adjusting (col. 1, lines 52-60). Therefore, it would have been obvious to one having ordinary skill

in the art at the time the invention was made to let a user override a preset quantity in Knight. One would have been motivated to override the preset quantity in order to prevent data duplication and an eventual system malfunction.

Claim 20: Knight discloses a method for management of space on one or more storage devices of a computer system as in claim 19 above, but does not explicitly disclose that the increasing is carried out upon said amount reaching a predetermined threshold.

L'Heureux discloses a similar method for adjusting the size (volume) when a threshold volume is exceeded (col. 1, lines 52-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to increase or adjust the upper size limit in Knight. One would have been motivated to increase the size limit in order to maintain the system integrity and avoid potential data lost.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Lagueux, Jr. et al. (US 6,538,669 B1) discloses a graphical user interface for configuration of a storage system.

b. Kaminer (US 2004/0002989 A1) discloses a graphical user interface relational database access system..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phenuel S. Salomon whose telephone number is (571)

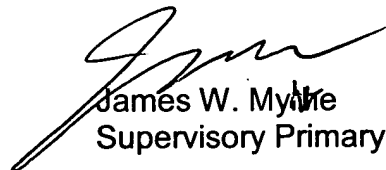
Art Unit: 2112

270-1699. The examiner can normally be reached on Mon-Fri 7:00 A.M. to 4:00 P.M.(Alternate Friday Off) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Myhre can be reached on (571) 270-1065. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3800.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PSS
1/03/2007


James W. Myhre
Supervisory Primary Examiner